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Fig.4

THICKNESS OF NON-MAGNETIC HIGH CONDUCTIVE LAYER(in terms of Cu) [nm]

Thickness of Pin Layer in Terms of Saturated Magnetic 1T(NiFe) [nm]

In Case of Synthetic Structure tm(pin 1) - tm(pin 2) (in terms of Nife) [nm]

RANGE OF THICKNESS OF NON-MAGNETIC HIGH CONDUCTIVE LAYER AND OF THICKNESS OF PIN LAYER OF THE INVENTION

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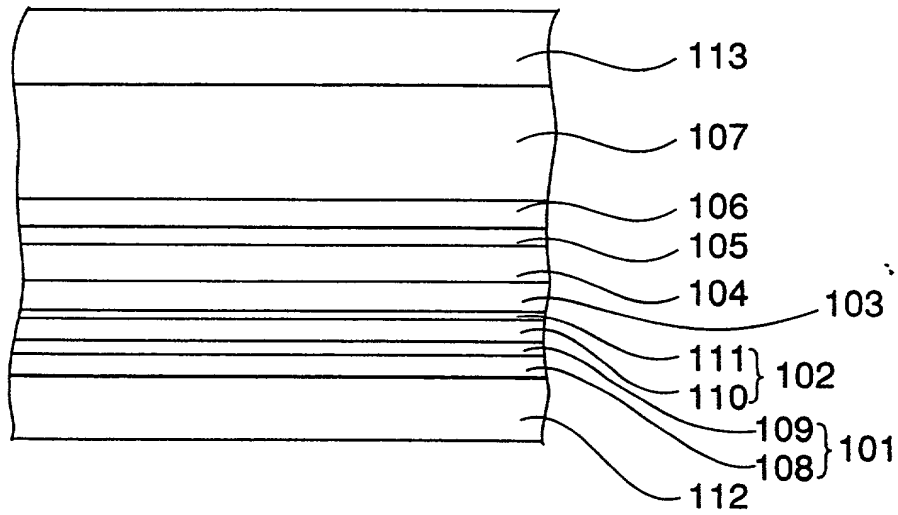
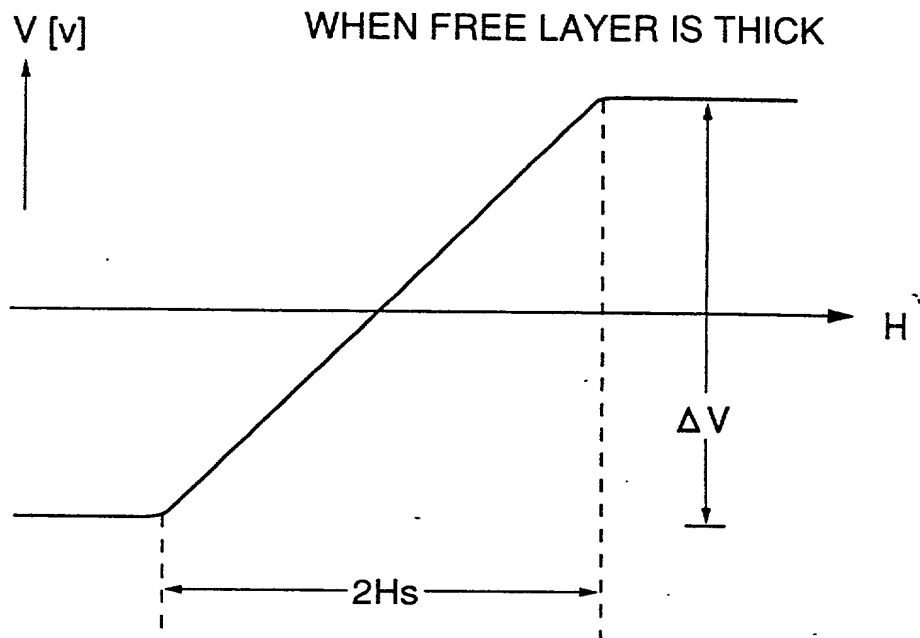Fig.5

EMBODIMENT IN TOP TYPE

Fig.6
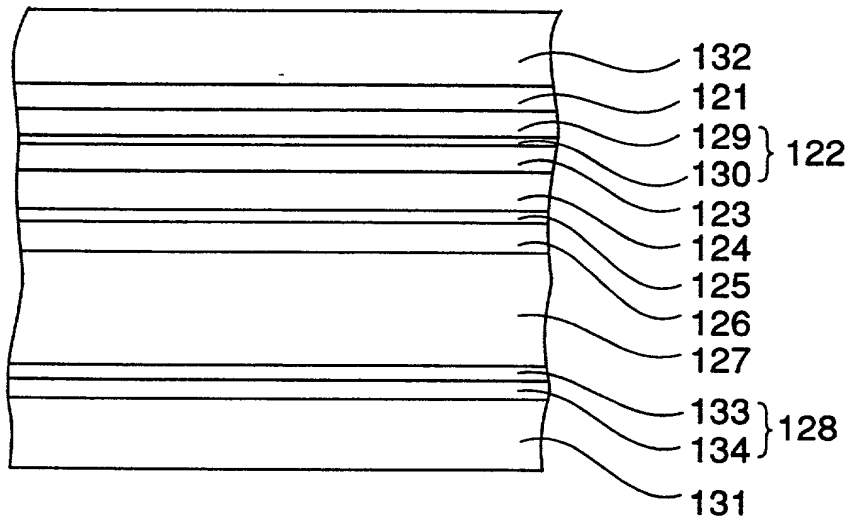
EMBODIMENT IN BOTTOM P TYPE
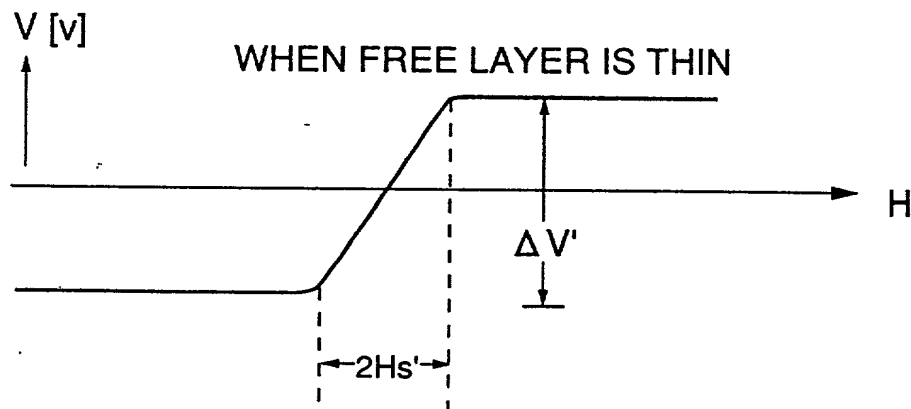
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Fig.7A

V [v]

WHEN FREE LAYER IS THICK

H

ΔV

2Hs

Fig.7B

V [v]

WHEN FREE LAYER IS THIN

H

$\Delta V'$

2Hs'

PROBLEMS WHEN FREE LAYER IS THIN:
Hs' < Hs (Inclination becomes sharp)
→ Hard to adjust bias point
- $\Delta V' < \Delta V$ (HR ratio decreases)
→ Cannot produce output signal